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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte REMIGIUSZ DUDEK, PAWEL GOCEK,
JAKUB KANIA, and HARI H. MADDURI

Appeal 2017-002605
Application 13/766,721
Technology Center 2100

Before JOHN A. JEFFERY, BRUCE R. WINSOR, and
JUSTIN BUSCH, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision to reject claims 1–5 and 7. Claim 6 is canceled. We have jurisdiction under 35 U.S.C. § 6(b). We affirm, but designate our affirmance as a new ground of rejection.

STATEMENT OF THE CASE

Appellants' invention identifies software components of a software product by (1) establishing a first confidence value indicative of a likelihood a first software component belongs to the software product; (2) establishing a second confidence value indicative of a likelihood that the first software component and the second software component are software components of

a common software product; and (3) establishing, based on the first and second confidence values, a third confidence value indicative of a likelihood that the second software component belongs to the software product.

See generally Abstract. Claim 1 is illustrative with our emphasis:

> 1. A method for identifying software components of a software product, comprising:
>
> establishing, by a computer, representative data representative of at least one of an attribute and an action of at least one of a first software component installed in a computer system and a second software component installed in said computer system;
>
> establishing a first confidence value indicative of a likelihood that said first software component belongs to said software product;
>
> establishing, based on said data, a second confidence value indicative of a likelihood that said first software component and said second software component are software components of a common software product; and
>
> establishing, based on said first and second confidence values, a third confidence value indicative of a likelihood that said second software component belongs to said software product; and
>
> wherein said establishing of said second confidence value comprises *at least one of*:
>
> increasing said second confidence value by a value indicative of full confidence that said first software component and said second software component are software components of a common software product *if* said representative data is indicative of an occurrence of communication in said computer system between said first and second software components;
>
> increasing said second confidence value by a value indicative of full confidence that said first software component and said second software component are software components of a common software product *if* said representative data is indicative of a configuration reference in said computer system between said first and second software components;
>
> increasing said second confidence value by a value indicative of partial confidence that said first software component and said second software component are software components of a common software product *if* said

> representative data is indicative of said first and second software components being located on a common host;
>
> increasing said second confidence value by a value indicative of partial confidence that said first software component and said second software component are software components of a common software product *if* said representative data is indicative of installation paths of said first and second software components being nested; and
>
> increasing said second confidence value by a value indicative of partial confidence that said first software component and said second software component are software components of a common software product *if* said representative data is indicative of said first and second software components having installation times falling within a predetermined period that is any one of less than one week, less than one day and less than one hour.

THE REJECTION

The Examiner rejected claims 1–5 and 7 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 3–4.[1]

CONTENTIONS

The Examiner finds that "[t]he claims are directed to the abstract idea of [a] mathematical relationship" (Final Act. 4) and are, therefore, ineligible under § 101. Final Act. 3–4. According to the Examiner, the claimed steps involving the calculation of likelihood and probabilities are tied to a mathematical formula at paragraphs 54–76 of the Specification. *Id.* at 4.

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[1] Throughout this opinion, we refer to (1) the Final Rejection mailed October 6, 2015 ("Final Act."); (2) the Appeal Brief filed March 4, 2016 ("App. Br."); (3) the Examiner's Answer mailed October 4, 2016 ("Ans."); and (4) the Reply Brief filed December 3, 2016 ("Reply Br.").

The Examiner further finds the claimed first, second, and third confidence values are mathematical computations found in paragraphs 54 and 60 of the Specification. *Id.*

Appellants argue that the claimed invention is not directed to a mathematical relationship because claim 1 recites the established confidence values are used to determine whether software components installed in a computer system belong to a particular software product. App. Br. 6–7. Appellants add that claim 1 does not contain or recite a mathematical formula. *Id.* at 7. Appellants further argue that even if claim 1 is directed to an abstract idea, the recited elements amount to significantly more than the abstract idea, and the Examiner has not provided any support that claim 1 is well-understood, routine or conventional in the field. *Id.* at 7–8. Rather, Appellants assert that any such mathematical operations from claim 1 are applied to improve existing technology by addressing a computer-centric challenge of determining the relationship between different software components in a computer system relative to a software product. *Id.* at 8.

ISSUE

Has the Examiner erred in rejecting claim 1 by finding that the method for identifying software components of a software product is directed to ineligible subject matter under § 101? This issue turns on whether the claimed invention is directed to a patent-ineligible abstract idea and, if so, whether elements of the claim—both individually and as an ordered combination—transform the nature of the claim into a patent-eligible application of that abstract idea.

ANALYSIS

To resolve the question of patentability under § 101, we begin by construing claim 1. During examination, claims are given their broadest reasonable interpretation consistent with the specification. *See In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). "Construing claims broadly during prosecution is not unfair to the applicant . . . because the applicant has the opportunity to amend the claims to obtain more precise claim coverage." *Id.*

Here, claim 1 recites a method for identifying software components of a software product, the method including "establishing" (1) representative data; (2) a first confidence value; (3) a second confidence value based on the representative data; and (4) a third confidence value based on the first and second confidence values. Appellants' Specification does not define the term "establishing," but does note "[a]ny establishing as discussed hereinabove may be carried out automatically, e.g. without user interaction or with limited user interaction." Spec. ¶ 44. Though this description informs our construction of the term, it does not limit our interpretation. Because the term "establishing" is not defined in the Specification, we interpret the term with its plain meaning, namely "to bring into existence." MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 427 (11th ed. 2005)..

Claim 1 further recites:

> wherein said establishing of said second confidence value *comprises at least one of*:
>
> increasing said second confidence value by a value indicative of full confidence . . . *if* said representative data is

> indicative of an occurrence of communication in said computer system between said first and second software components;
>
> increasing said second confidence value by a value indicative of full confidence . . . *if* said representative data is indicative of a configuration reference in said computer system between said first and second software components;
>
> increasing said second confidence value by a value indicative of partial confidence . . . *if* said representative data is indicative of said first and second software components being located on a common host;
>
> increasing said second confidence value by a value indicative of partial confidence . . . *if* said representative data is indicative of installation paths of said first and second software components being nested; and
>
> increasing said second confidence value by a value indicative of partial confidence . . . *if* said representative data is indicative of said first and second software components having installation times falling within a predetermined period that is any one of less than one week, less than one day and less than one hour.

App. Br. 10–11 (App'x A) (emphases added) (hereinafter the "five conditions").

In accord with our precedent, none of these five conditions need be satisfied to meet method claim 1. *See Ex Parte Schulhauser*, Appeal 2013-007847, 2016 WL 6277792, at *3–5 (PTAB Apr. 28, 2016) (precedential) (holding that in a method claim, a step reciting a condition precedent does not need to be performed if the condition precedent is not met).

Having construed claim 1, we consider the issue of statutory subject matter under 35 U.S.C. § 101. In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 132 S.Ct. 1289, 1294 (2012), the Supreme Court established an analytical framework under § 101 to distinguish patents that claim patent-ineligible laws of nature, natural phenomena, and abstract

ideas—or add too little to such underlying ineligible subject matter—from those that claim patent-eligible applications of those concepts. To determine whether claims are patent eligible under § 101, we apply the Supreme Court's two-step test articulated in *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014). Following the Court's guidance, we turn to the first step of the *Alice* analysis to determine if the claim is directed to one of the judicial exceptions, i.e., an abstract idea. If so, we then proceed to the second step and examine the elements of the claim—both individually and as an ordered combination—to determine whether the claim contains an "inventive concept" sufficient to transform the claimed abstract idea into a patent-eligible application. *Id.* at 2357.

Alice Step One

It is well settled that if a method can be performed by human thought alone, or by a human using pen and paper, it is merely an abstract idea and not patent-eligible under § 101. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) ("[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101."); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) ("[p]henomena of nature . . . , mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." (emphasis added)). Additionally, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 ("That purely mental processes can be unpatentable, even when

performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").

Here, we agree with the Examiner (Ans. 2–3) the claims are directed to an abstract idea. However, applying *Alice* step one, we find under a broad but reasonable interpretation, nothing precludes establishing the three confidence values *mentally* or by using pen and paper. That is, a human can mentally establish the first and third confidence values (or use pen and paper to do so), where each value indicates that a first and second software component installed on a computer system belongs to a software product, respectively. Further, a human can establish the second confidence value mentally (or use pen and paper to do so), based on representative data established by a computer, that indicates the first and second software components installed on the computer system both belong to the software product—exclusive mental functions ineligible for patent protection under § 101.

Although the Examiner is correct that the claims are directed to a mathematical relationship at least with respect to the recited increase in the second confidence value and in light of the mathematical formula in paragraphs 54–76 of the Specification (Final Act. 4; Ans. 2–3), the Examiner's analysis presupposes that at least one of five conditions must be satisfied to meet the claim—which they do not. In light of the breadth of claim 1, then, the claim merely requires establishing (1) representative data by a computer, and (2) three confidence values that may—or may not—be mathematically related if the conditions are not satisfied. In any event, these three confidence values can be established mentally or by pen and paper as noted previously.

Therefore, we designate our affirmance as a new ground of rejection in light of our emphasis on these additional facts.

That claim 1 adds establishing the representative data by a "computer," where the data represents at least one of an attribute and an action of at least one of first and second software components installed in a computer system does not change our conclusion. Notably, the claimed invention does not improve the computer's functionality or efficiency, or otherwise change the way the computer functions. *Cf. Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Rather, claim 1 recites nothing more than (1) using a generic computer to establish data representative of an attribute and/or action of the installed software components, and (2) establishing three confidence values that can be performed entirely mentally or by pen and paper as noted previously. Ans. 3–4. But merely reciting a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2358. In other words, merely reciting an abstract idea while adding the words "apply it with a computer" does not render an abstract idea non-abstract: there must be more. *See id.* at 2359. "[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible. The bare fact that a computer exists in the physical rather than purely conceptual realm is beside the point." *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (internal citations and quotation marks omitted).

Further, all generic computer components in claim 1 are limited to establishing representative data that is used to establish the three confidence values; therefore, all generic computer components in claim 1 are limited to

pre-solution data-gathering activity. "Purely 'conventional or obvious' '[pre]-solution activity' is normally not sufficient to transform an unpatentable law of nature into a patent-eligible application of such a law." *Mayo*, 132 S. Ct. at 1298 (second brackets in original) (citing *Parker v. Flook*, 437 U.S. 584, 590 (1978)).

Alice Step Two

Turning to the second step of the *Alice* analysis, because we find that claim 1 is directed to an abstract idea, the claims must include an "inventive concept" in order to be patent-eligible, i.e., there must be an element or combination of elements that is sufficient to ensure that the claim in practice amounts to "significantly more" than the abstract idea itself.

According to Appellants, claim 1 is directed to establishing confidence values indicating a likelihood of certain software components belonging to a software product in a computer system, along with the five conditions, and assert that these limitations add significantly more to the claim such that the claim amounts to significantly more than a mathematical relationship. App. Br. 7. We disagree. As discussed previously, (i) establishing the three confidence values indicating the likelihood of certain software components belonging to a software product is merely part of either the entire mental performance or a human using a pen and paper; and (ii) none of the five conditions need be satisfied.

But even if one or more of the five conditions were satisfied (which is not required), the claim would still be directed to an abstract idea. Under these conditions, the second confidence value would merely be *increased* by some other value: a mathematical operation using, for example, addition or

multiplication that could be performed entirely mentally or by pen and paper. That is, increasing the second confidence value under the specified conditions merely recites a *mathematical relationship* between the values as the Examiner indicates (Fin. Act. 4) (e.g., one value is greater than another). That this value increase can *also* be performed entirely mentally or by pen and paper only further underscores the fact that these additional limitations fail to add significantly more to the claim beyond the abstract idea even if the recited conditions had to be satisfied to meet the claim—which they do not.

To the extent that Appellants contend that the limitations of claim 1 provide an improvement to the computer field by determining the relationship between different software components in a computer system relative to some particular software product (*see* App. Br. 8; Reply Br. 5), we disagree. Nothing in claim 1 purports to improve computer functioning or "effect an improvement in any other technology or technical field." *See Alice*, 134 S. Ct. at 2359. Other than a "computer" responsible for establishing data representative of at least one of a first and second software component installed in a "computer system," the computer is merely recited as pre-solution data-gathering activity as discussed previously. As the Federal Circuit indicates, "the basic character of a process claim drawn to an abstract idea is not changed by claiming only its performance by computers, or by claiming the process embodied in program instructions on a computer readable medium." *See CyberSource*, 654 F.3d at 1375–76 (citing *In re Abele*, 684 F.2d 902 (CCPA 1982)).

Appellants' preemption argument in the principal Brief that claim 1 "is not seeking to tie up any judicial exception such that others may not

practice it" (App. Br. 8) is unpersuasive because it does not alter our § 101 analysis. Preemption concerns are fully addressed and made moot where a claim is deemed to disclose patent ineligible subject matter under the two-part framework described in *Alice*. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). "While preemption may signal patent ineligible matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.*

Therefore, we are not persuaded that the Examiner erred in rejecting claim 1, and claims 2–5 and 7 not argued separately with particularity. Because we rely on newly-cited facts in reaching this conclusion, we designate our affirmance as a new ground of rejection under 37 C.F.R. § 41.50(b).

CONCLUSION

The Examiner did not err in rejecting claims 1–5 and 7 under § 101.

We designate our affirmance as a new ground of rejection under § 41.50(b).

DECISION

The Examiner's decision in rejecting claims 1–5 and 7 is affirmed.

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). Section 41.50(b) provides "[a] new ground of rejection

pursuant to this paragraph shall not be considered final for judicial review."

Section 41.50(b) also provides:

> When the Board enters such a non-final decision, the appellant, within two months from the date of the decision, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:
>
> (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the prosecution will be remanded to the examiner. The new ground of rejection is binding upon the examiner unless an amendment or new Evidence not previously of Record is made which, in the opinion of the examiner, overcomes the new ground of rejection designated in the decision. Should the examiner reject the claims, appellant may again appeal to the Board pursuant to this subpart.
>
> (2) *Request rehearing.* Request that the proceeding be reheard under §41.52 by the Board upon the same Record. The request for rehearing must address any new ground of rejection and state with particularity the points believed to have been misapprehended or overlooked in entering the new

> ground of rejection and also state all other grounds upon which rehearing is sought.

Further guidance on responding to a new ground of rejection can be found in the MPEP § 1214.01.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED; 37 C.F.R, § 41.50(b)